RY Series 85℃

Features

Extremely Long useful life

Applications

- High reliability
- Professional power supplies
- Frequency converters
- Uninterruptible power supplies

Features

- Long useful life
- High reliability
- High reliability current capability
- Version with low-inductance design available
- All-welded construction ensures reliable electrical contact
- Self-extinguishing electrolyte
- RoHS-compatible

Construction

- Charge-discharge proof, polar
- Aluminum case with insulating sleeve
- Poles with screw terminal connections
- Mounting with ring clips, clamps or threaded stud

Specifications

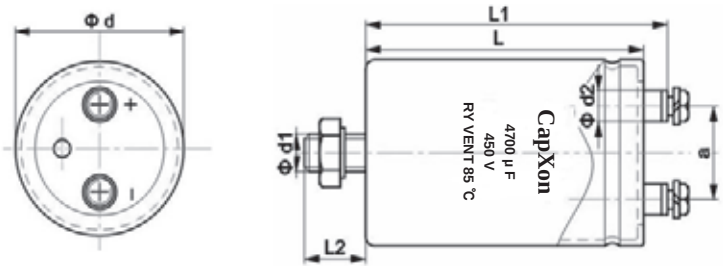
Item	Performance Characteristics
Operating Temperature Range	-40 to +85℃
Rated voltage V_R	350 to 450 V DC
Surge voltage V_S	V_R<=315V 1.15 V_R V_R > 315V 1.10 V_R
Rated capacitance C_R	1500 to 22000 μF
Capacitance tolerance	±20%(120Hz,+20℃)
Leakage Current I_{leak} (+20℃.max.)	I_{leak} =0.018x(CxV) $^{0.85}$ + 4 or 5mA, whichever is smaller (after 5 minutes) Where, I_{leak}: Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor (tan δ ,at 20℃,120Hz)	Less than the value under table(%) Working Voltage(VDC): 350~450 D.F. (%)max.: 15
Self-inductance ESL	d = 51 mm: approx. 17 nH d ≧63.5 mm: approx. 20 nH Capacitors with low-inductance design: d ≧63.5 mm: approx. 15 nH
Useful life 85℃; V_R,$I_{AC,R}$	>12000 h Requirements: △C/C ≤±15% of initial value tan δ ≤1.75 times initial specified limit I_{leak} ≤ initial specified limit
Voltage Endurance test 85℃; V_R	2000 h Post test requirements: △C/C ≤±10% of initial value tan δ ≤1.3 times initial specified limit I_{leak} ≤ initial specified limit
Vibration Resistance test	To IEC 60068-2-6, test Fc: Displacement amplitude 0.75 mm, frequency range 10 ... 55 Hz, acceleration max. 10 g, duration 3x2 h. Capacitor mounted by its body which is rigidly clamped to the work surface.
Characteristics at low temperature	Max. impedance ratio at 120 Hz V_R(V): 350-450 $Z_{-25℃}$ / $Z_{20℃}$: 4 $Z_{-40℃}$ / $Z_{20℃}$: 10
Sectional specification	IEC 60384-4 and JIS-C-5101

Multiplier for Ripple Current vs. Frequency

Frequency(Hz)	50	120	300	1K	≧3K
Multiplier	0.8	1	1.2	1.3	1.4

Dimensional drawings

Threaded stud mounting



M5:Min.reach of screw = 8mm
M6:Min.reach of screw = 12mm
M8:Min.reach of screw = 16mm

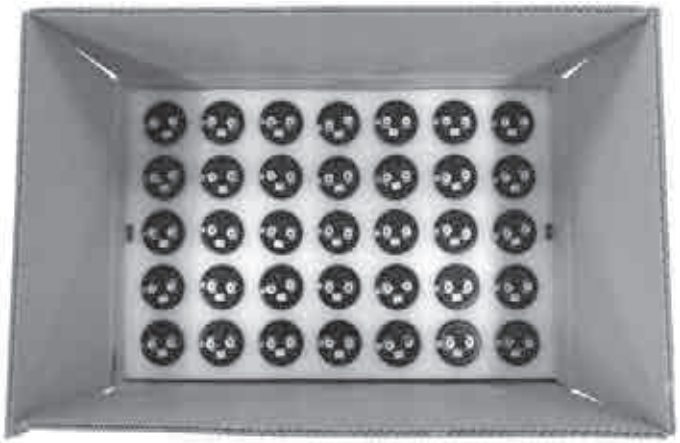
Dimensions

Terminal	Dimensions(mm) with insulating sleeve						
	d±2	L±3	L_1±3	L_2+/-1	d_1	$d_2$max.	a±0.5
M5	63.5	80~140	86.5~146.5	16	M12	10.3	28.6
M5/M6	76.2/89	100~240	106.4~246.5	16	M12	10.3	31.8
M5/M6	76.2/89	100~240	106.4~246.5	16	M12	17.5	31.8
M8	100	100~240	110~250	16	M12	17.5	41.5

Packing

Capacitor diameter d(mm)	length l(mm)	Packing units (pcs.)
63.5	all	24
76.2	all	15
89	all	12
100	all	6

Packing of screw



Accessories

The following items are included in the delivery package, but are not fastened to the capacitors.

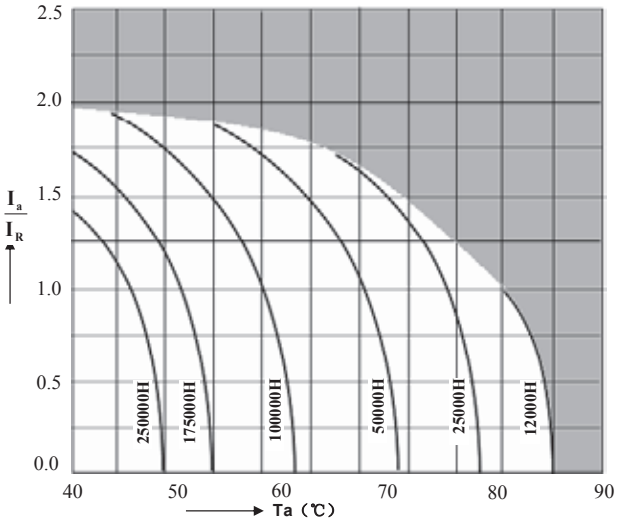
	Thread	Maximum torque
For terminals	M5	2 Nm
	M6	2.5 Nm
	M8	5.0 Nm
For mounting	M12	10 Nm

Case Size

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85℃ /120Hz)	Typ. ESR 20℃ 120Hz (mΩ)	MAX ESR 20℃ 120Hz (mΩ)
350	2700	63.5x80	16.0	41	74
350	3300	63.5x100	19.0	33	60
350	3900	63.5x105	21.0	28	51
350	4700	63.5x120	22.0	24	42
350	4700	63.5x140	23.5	24	42
350	4700	76.2x100	24.0	24	42
350	5600	63.5x140	28.0	20	36
350	5600	76.2x105	30.0	20	36
350	6800	76.2x120	31.0	16	29
350	6800	76.2x140	33.0	16	29
350	6800	89x100	34.0	16	29
350	8200	76.2x140	36.0	13	24
350	8200	76.2x160	38.0	13	24
350	10000	76.2x160	42.0	11	20
350	10000	89x120	42.0	11	20
350	12000	76.2x180	45.0	9	17
350	12000	76.2x220	49.0	9	17
350	12000	89x145	51.0	9	17
350	15000	76.2x220	53.0	7	13
350	15000	89x160	53.0	7	13
350	15000	89x220	55.0	7	13
350	18000	89x220	58.0	6	11
350	22000	89x230	60.0	5	9
400	2700	63.5x105	17.0	41	74
400	3300	63.5x100	20.0	33	60
400	3300	63.5x120	21.5	33	60
400	3900	76.2x100	23.0	28	51
400	3900	76.2x105	23.5	28	51
400	4700	76.2x100	26.0	24	42
400	4700	76.2x120	28.0	24	42

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/85℃ /120Hz)	Typ. ESR 20℃ 120Hz (mΩ)	MAX ESR 20℃ 120Hz (mΩ)
400	5600	76.2x140	30.0	20	36
400	6800	76.2x140	33.0	16	29
400	6800	76.2x160	35.0	16	29
400	8200	76.2x160	36.5	13	24
400	10000	76.2x190	38.0	11	20
400	10000	89x160	39.0	11	20
400	12000	89x160	41.0	9	17
400	12000	89x220	46.0	9	17
400	15000	76.2x230	48.0	7	13
400	15000	89x180	52.0	7	13
400	15000	89x220	57.0	7	13
400	18000	89x240	60.0	6	11
450	1500	63.5x80	13.0	72	130
450	2200	63.5x100	14.0	50	90
450	2200	63.5x105	15.0	50	90
450	2200	63.5x120	16.0	50	90
450	2700	76.2x105	18.0	41	74
450	3300	63.5x140	23.0	33	60
450	3300	76.2x100	23.0	33	60
450	3300	76.2x120	25.0	33	60
450	3900	76.2x120	25.0	28	51
450	3900	76.2x140	26.7	28	51
450	4700	76.2x120	27.0	24	42
450	4700	76.2x140	28.0	24	42
450	4700	76.2x160	29.0	24	42
450	5600	76.2x160	31.5	20	36
450	6800	76.2x160	32.0	16	29
450	8200	76.2x220	36.0	13	24
450	10000	76.2x220	40.0	11	20
450	10000	89x170	40.0	11	20

Useful life



depending on ambient temperature Ta versus under ripple current operating conditions